# WHIDBEY ISLAND NAVAL AIR STATION
## OAK HARBOR, WASHINGTON

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|---|---|
| **Engineering Field Division/Activity:** | EFANW |
| **Major Claimant:** | CINCPACFLT |
| **Size:** | 7,000 Acres |
| **Funding to Date:** | $49,939,000 |
| **Estimated Funding to Complete:** | $31,168,000 |
| **Base Mission:** | Serves as training and operations center for the A-6 and A-6E Bomber Squadrons; serves as center for U.S. Navy and Marine Corps reserve training in the Pacific Northwest |
| **Contaminants:** | Chlorinated solvents, PCBs, polynuclear aromatic hydrocarbons |

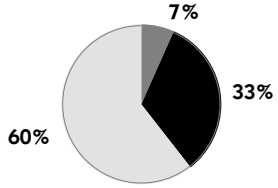
| **Number of Sites:** | | **Relative Risk Ranking of Sites:** | | | |
|---|---|---|---|---|---|
| **CERCLA:** | 51 | **High:** | 14 | **Not Evaluated:** | 16 |
| **RCRA Corrective Action:** | 0 | **Medium:** | 4 | **Response Complete:** | 54 |
| **RCRA UST:** | 38 | **Low:** | 1 | **Total Sites:** | 89 |
| **Total Sites:** | 89 | | | | |

**NPL**

## EXECUTIVE SUMMARY

Naval Air Station (NAS) Whidbey Island is located north of Oak Harbor in Island County, Washington. NAS Whidbey occupies four separate areas on Whidbey Island: the Ault Field north of Oak Harbor; the Seaplane Base east of Oak Harbor; the Outlying Field near Coupeville; and the Lake Hancock Target Range. Whidbey Island NAS serves as training and operations center for the A-6 and A-6 E bomber squadrons and as a center for U.S. Navy and Marine Corps reserve training in the Pacific Northwest. Past disposal practices have resulted in contamination at several sites, including six former landfill areas. Other operations that contributed to contaminated sites on the base include aircraft maintenance, vehicle maintenance, public work shops and fire fighting training. Contaminants were found in groundwater, surface water, sediments, and soil. In February 1990, Ault Field and the Seaplane Base were put on the National Priorities List (NPL) due to the number of waste disposal and spill sites. There was also the potential for wastes originating from Ault field and the Seaplane Base to affect domestic drinking water wells and local shellfish beds. The Federal Facilities Agreement among the Navy, EPA, and the State of Washington Department of Ecology was signed in September 1990. It required the Navy to further investigate Ault Field and the Seaplane Base and evaluate methods for cleanup. Soil excavation activities at the Seaplane Base have sufficiently reduced the threat to human and health and the environment. The EPA removed the Seaplane Base from the National Priorities List on 21 September 1995. The State of Washington removed the Seaplane Base from their Hazardous Sites List on 22 August 1995. This was the first such delisting for the Navy.

Surface runoff from NAS Whidbey Island discharges directly into the Straits of Juan de Fuca, Dugualla Bay at Ault Field, and into Crescent Harbor and Oak Harbor at the Seaplane Base. The beaches and bays around the island are popular fishing and shellfish gathering areas. A drinking water aquifer for the island underlies the installation and is the primary and sole source of water for most of rural Whidbey Island.




**Current Status Of Sites**

| | |
|---|---|
| Studies Underway | 6 |
| Cleanups Underway | 29 |
| Response Complete | 54 |
| TOTALS | 89 |

The Community Relations Plan (CRP) was finalized in FY91 and revised in FY95. The Technical Review Committee (TRC) was converted to a Restoration Advisory Board (RAB) in FY94. This was one of the first five RABs within the Navy and Marine Corps. Comments have been solicited from the community at an Open House. Information Repositories have been established at three local libraries.

At the end of FY95, six of the 89 sites were in the study phase, 29 were in the cleanup phase, and 54 were Response Complete (RC). A Hazardous Waste Evaluation Study (HWES) performed in 1994, recommended 17 sites for No Further Action (NFA). Two removal actions were completed in FY91 at Site 43 to remove tanks and petroleum-contaminated soil. In FY94, a tank was removed at Site 11 and contaminated soil was removed at Site 37. Corrective Actions were completed for 16 UST sites. Various USTs were removed from Whidbey Island in FY95. Remedial Action (RA) will begin in FY96 for USTs 42 and 95. In FY95, groundwater contamination from a former landfill at Site 6 of OU 1 was migrating off-base and threatening private landowners' wells. A pump and treat system was installed and began full scale operations. Residents have been connected to public water supplies and their wells have been closed. The landfill is currently being capped and anticipated to be completed in FY96. The Pump and treat will continue to operate. Also in FY95, at OU 3, a ROD was signed, and the system Remedial Design (RD) completed. Removal of sediments contaminated with petroleum products, inorganics, and organic compounds will be completed in FY96. At OU 2, soils contaminated with the chemical additive PCB, organic compounds and pesticides were removed. During the RAs at OUs 2 and 3, contaminated non-hazardous soil was disposed of at the Site 6 landfill, prior to the construction of the landfill cap there. This saved the Navy considerable costs over disposal at an off-site location.

In FY96, OU 5 will have a ROD signed, and RD will begin. The RD will be completed in FY97. The Navy has used various innovative concepts on OU 5. They include a qualitative (vs. quantitative) risk assessment, a focused Feasibility Study (FS) a combined RI/FS document, and a Reader's guide to the RI/FS document for the RAB and the community. All four of these innovative concepts expedited the cleanup process in FY95 by streamlining the Navy's efforts and facilitating an efficient RAB review of the RI/FS.

NAS Whidbey Island was recognized for its outstanding environmental cleanup program through the Secretary of Defense (SECDEF) Environmental Cleanup Award. This award represents a major accomplishment and environmental success for NAS Whidbey Island.

# WHIDBEY ISLAND NAS
# RELEVANT ISSUES

## ENVIRONMENTAL RISK

**HYDROGEOLOGY** - Surface runoff from NAS Whidbey Island discharges directly into the Straits of Juan de Fuca, Dugualla Bay at Ault Field, and into Crescent Harbor and Oak Harbor at the Seaplane Base. An important drinking water aquifer for the island underlies the installation. This aquifer is the primary and sole source of water for most of rural Whidbey Island. Groundwater contamination from a former Navy landfill at Site 6 (OU 1) was migrating off-base and threatening the drinking waterwells of private landowners. An Interim Remedial Action (IRA) addressed the primary risk posed to the public from groundwater contamination by controlling the spread of the contaminated plume of groundwater. The major components of the IRA included extracting groundwater to minimize the plume; treating extracted groundwater using metal precipitation and air stripping; reinjecting treated groundwater into the aquifer from which it was drawn; and monitoring groundwater to measure the effectiveness of the remedy. During pump and treat, residents were connected to public water supplies and their wells were closed. The IRA was completed in January 1994.

**NATURAL RESOURCES** - The beaches and bays around Whidbey Island are popular fishing and shellfish gathering areas. The bald eagle, a threatened species, and the peregrine falcon, an endangered species, may occasionally hunt at NAS Whidbey Island.


**RISK** - Fourteen sites at NAS Whidbey Island have been ranked high relative risk. Discussion follows on what has been done at seven of these high risk sites. Three high risk sites are old landfills. Two of the landfills, Sites 5 and 6, are contributing to groundwater contamination which is migrating from beneath the landfills to off-site residences. Site 6 had three million gallons of liquid wastes deposited at the site. A cap is being placed on the landfill to prevent rainwater from infiltrating through the landfill and into the groundwater with additional contaminants. The capping should be completed in FY96. The Pump and treat system became operational in June 1995.

OU 2 contains three high risk sites: Sites 4, 14 and 29. Site 4 is a former transformer storage area. Contaminated surface soils were threatening nearby wetlands, recreational areas and residential wells. Site 14 was a former pesticide disposal area. Contaminated groundwater at this site could have spread and threaten the sole source aquifer. Site 29 is a former fire training school. Contaminated soils and groundwater posed an ecological risk to humans and small mammals. In FY95, Remedial Action (RA) was completed at OU 2 and soils contaminated with PCBs, organic compounds and pesticides were removed.

OU 3 contains two high risk sites: Sites 16 and 31. Site 16 includes runway ditches. Contaminated soils and groundwater posed an ecological risk to humans and marine life. Site 31 is a former fire training area. Possible exposure pathways include contaminated surface and subsurface soil, and contaminated groundwater. Receptors include humans and small mammals. Remedial Action is underway to remove sediments contaminated with petroleum products, inorganics and organic compounds by dredging 7,000 linear feet of runway ditches.

**RESTORATION PROJECTS** - An RA provided an additional wildlife area at OU 4 by creating a pond. Removal of backfill material was done intentionally to create a pit with gradually sloping sides in order to form a pond at the borrow area.

## REGULATORY ISSUES


**NATIONAL PRIORITIES LIST** - In February 1990, NAS Whidbey Island was listed on the National Priorities List (NPL) with Hazard Ranking System scores of 39.64 for Seaplane Base and 48.48 for Ault Field. Placement on the NPL was due to the number of waste disposal and spill sites discovered. Contaminants at these sites included large quantities of petroleum products, solvents, paints, thinners, jet fuel, pesticides, and other wastes. There was also the potential for wastes originating from Ault field and the Seaplane Base to affect domestic drinking water wells and local shellfish beds.

Soil excavation activities at the Seaplane Base have sufficiently reduced the threat to human and health and the environment. The EPA removed the Seaplane Base from the National Priorities List on 21 September 1995. The State of Washington removed the Seaplane Base from their Hazardous Sites List on 22 August 1995. This was the first such delisting for the Navy.

**LEGAL AGREEMENTS** - In September 1990, the Navy signed a Federal Facility Agreement (FFA) for Ault Field and the Seaplane Base. Individual sites within the two areas were grouped into Operable Units (OUs) to facilitate cleanup efforts.
OU 1 - Sites 5 and 6
OU 2 - Sites 2, 3, 4, 14 and 29
OU 3 - Sites 16 and 31*
OU 4 - Sites 39, 41, 44, 48 and 49.
* Site 31 was recently moved to OU 5.

The FFA specified that 26 sites undergo more intensive sampling programs, such as a Hazardous Waste Evaluation Study (HWES) for potential inclusion in an RI/FS. The HWES was completed. Sites 1 and 52 were recommended for an RI/FS as OU 5 due to soil and groundwater contamination. Sites 7-10, 19, 22-25, 27, 28, 32, 34, 40 and 53 were recommended for No further Action (NFA). The other sites included in the HWES will undergo removal actions followed by confirmatory sampling.

**PARTNERING** - To improve working relationships and expedite the cleanup program, the Navy includes regulators and contractors in scoping meetings. The decision-making process has improved by providing technical information to the regulators prior to the submission of primary deliverables. Prior to beginning the RI/FS for OU 5, the Navy conducted extensive scoping discussions with the EPA and the State of Washington. Working together, an investigation and remediation strategy was developed. Consequently there were minimal regulator comments on the RI/FS work plan, and the Navy was able to quickly complete the field sampling and the RI/FS document. The ROD for Operable Unit (OU) 3 was signed in April 1995 and the cleanup of OU 3 was also completed during FY95. Mutual trust between the Navy and the EPA helped expedite the cleanup process and saved significant environmental dollars.

## COMMUNITY INVOLVEMENT

**RESTORATION ADVISORY BOARD** - The Technical Review Committee (TRC) was formed in 1988 and met quarterly. The TRC was converted to a Restoration Advisory Board (RAB) in FY94. This was one of the first five RABs within the Navy and Marine Corps. The twenty-five RAB members meet bi-monthly and have reviewed numerous technical documents. The Navy prepared a Reader's Guide for the OU 5 RI/FS document. The Reader's Guide is an expanded executive summary which provides a technical synopsis of the RI/FS and includes figures and data tables. The Reader's Guide was well received by the RAB and the community.


**COMMUNITY RELATIONS PLAN** - The Community Relations Plan (CRP) was finalized in February 1991 and revised in FY95. A RAB brainstorming session was conducted to develop the list of community members to be interviewed as well as the interview questions. The Navy interviewed community members individually, and the entire community was invited to an open house to learn about the cleanup program and provide comments on the CRP update.

**INFORMATION REPOSITORY** - The Administrative Record is maintained at EFA Northwest, Poulsbo, Washington. Information Repositories have been established at the Oak Harbor Library, Oak Harbor Washington, at the Coupeville Library in Coupeville, Washington, and at the NAS Whidbey Library, Oak Harbor Washington.

# WHIDBEY ISLAND NAS
# HISTORICAL PROGRESS

### FY84

An Initial Assessment Study (equivalent to a PA) identified 52 past spill and/or disposal sites. 34 sites were recommended for further study or mitigating actions and potentially involve soil, groundwater, sediment, and shellfish contamination.
**Sites 1, 7-12, 15, 30, 33, 34 and 46-51** - Recommended for No Further Action (NFA) based on lack of information concerning migration or exposure pathways and contaminant concentrations.
**Site 52** - Described in the IAS but not identified as a site until later.

### FY88

**Sites 2-6, 13-14, 16-29, 31-32 and 35-45** - A Current Situation Report (CSR) (equivalent to an SI) was completed. Sites 2 and 3 had groundwater contamination and discoloration of a few water samples. Site 4 had low levels of PCBs found in the soil. Oily seeps were found downgradient of Site 5. At Site 6, elevated levels of iron and chromium were found, and specific conductivity suggesting potential downgradient groundwater contamination. The CSR found no detectable pesticide or herbicide contamination of soil or groundwater at Site 14, although inhibited vegetation growth was observed in this area. At Site 16, significant concentrations of petroleum hydrocarbons, trace metals, and polynuclear aromatic hydrocarbons (PAHs) were found in soil and groundwater. At Site 29, significant concentrations of lead, organic halogens, and PAHs were found in soil. At Site 31, the CSR found surface soil contaminated with lead, organic halogens, PCBs, and PAHs. The Ault Field Sites were found to have groundwater contaminated with petroleum hydrocarbons, organic carbon, and organic halogens. Sites 35-45 had slightly elevated levels of trace metals detected in sediment and shellfish. All sites except for Sites 32 and 38 were recommended for an RI/FS. Sites 32 and 38 were recommended for no further action.
**Sites 21, 26, 37 and 42-43** - These sites were moved to the UST Program.

### FY90

**Sites 12, 21, 26, 30, 33, 37, 38, 42-43, 46-47 and 50-51** - No further action recommended, although Site 42 did have further study.

### FY91

**Site 43** - Two removal actions were completed to remove tanks and petroleum contaminated soil.
**Sites 12, 113 and 138** - Interim Removal Actions were completed.
**USTs 12, 117, 212 and 420** - The Remedial Investigation was completed.

### FY92

An FFA required additional sampling. Extended SIs were completed.
**OU 1** - In April 1992, the Department of the Navy signed an Interim Record of Decision (IROD) with EPA Region X and the State of Washington for an Interim Remedial Action (IRA).
**Site 42** - The Remedial Investigation was completed.
**Sites 420 and 212** - The Remedial Action was completed.

### FY93

**OU 1** - The RI/FS was completed. The final RI/FS recommended capping of the landfill.
**OU 2** - An RI/FS was completed. The final RI/FS recommended removal and off-site disposal of soils containing PCBs, pesticides and PAHs.
**OU 4** - An RI/FS was completed. Small scale removals and off-site disposal of contaminated soils were recommended.

### FY94

**Site 11** - A removal action was completed to remove a tank.
**Site 37** - A removal action was completed to remove contaminated soil.
**Site 16 of OU 3** - An RI/FS was completed.
**OUs 1, 2 and 4** - RD was completed.
**USTs 53 and 60** - Remedial Investigation was completed.
**USTs 12, 121, 116, 60, 53, 977, 137, 214, 313, 386, 415, 500, 510, 599, 889 and 2708** - Remedial Action was completed.
**Site 42** - A Corrective Action Plan was completed.

# PROGRESS DURING FISCAL YEAR 1995

### FY95

Various USTs were removed around Whidbey NAS.
**Site 6 of OU 1** - Groundwater contamination from a former Navy landfill was migrating off-base and threatening private landowners. A pump and treat system was installed and began full scale operations. During pump and treat, residents were connected to public water supplies and their wells were closed. The landfill is currently being capped.
**Site 16 of OU 3** - A ROD was signed in April 1995 and Remedial Design (RD) completed. A Remedial Action (RA) is underway to remove sediments contaminated with organic compounds, inorganics, and PAHs, by dredging 7,000 linear feet of runway ditches. Additional cleanup actions include: testing the dredged sediments and comparing the test results to federal and state regulations to determine if the sediments are hazardous; disposing of non-hazardous sediments in the base landfill; and treating and disposing of hazardous sediments off-base as required by state and federal regulations.
**OU 2** - Remedial Action was completed and soils contaminated with PCB,organic compounds and pesticides were removed.
**OU 4** - The final Remedial Action was completed on soils contaminated with arsenic, chromium, lead, organic compounds and pesticides. An on-site borrow soil area provided a backfill material source. Analysis of a composite sample from the borrow soil area confirmed that the soil was free of contamination. Removal of backfill material was done intentionally to create a pit with gradually sloping sides in order to form a pond. Thus, the remedial action program provided an additional wildlife area by creating a pond at the borrow area.
**Sites 39, 41, 44 and 48-49 of OU 4** - The Seaplane Base was delisted from the National Priority List (NPL) and the State of Washington's Hazardous Sites List.
**Sites 1, 31, and 52 of OU 5** - An RI/FS was completed.

# PLANS FOR FISCAL YEARS 1996 AND 1997

### FY96

**Site 6** - The landfill cap is anticipated to be completed in September 1996. Also at Site 6, the RA to pump and treat groundwater will continue to operate in FY96.
**OU 3** - Will have RA completed.
**Sites 1, 31 and 52 of OU 5** - Will have a ROD signed, and RD will begin in FY96. The RD at Sites 1 and 52 will be completed in FY97.
**USTs 42 and 95** - RA is scheduled to begin.

### FY97

**Sites 1, 31 and 52 of OU 5** - RD should be completed and RA will begin.

# WHIDBEY ISLAND NAS
# PROGRESS AND PLANS

| CERCLA | FY94 and before | FY95 | FY96 | FY97 | FY98 | FY99 | FY00 | FY01 and after |
|---|---|---|---|---|---|---|---|---|
| PA | 50 | | | | | | | |
| SI | 43 | | | | | | | |
| RI/FS | | 29 | 1 | 10 | | | | |
| RD | 4 | | 1 | 1 | | | | |
| RA | | 7 | 10 | 2 | | 2 | | 2 |
| IRA | | 1(1) | | 2(2) | | | | |
| RC | 8 | 23 | 9 | 1 | | 1 | 1 | 8 |
| Cumulative Response Complete | 16% | 61% | 78% | 80% | | 82% | 84% | 100% |

| UST | FY94 and before | FY95 | FY96 | FY97 | FY98 | FY99 | FY00 | FY01 and after |
|---|---|---|---|---|---|---|---|---|
| ISC | 2 | | | | | | | |
| INV | 9 | | | | | | | |
| CAP | 1 | | | | | | | |
| DES | | | | | | | | |
| IMP | 23 | 9 | 1 | 1 | | | | |
| IRA | 15(15) | 1(1) | | | | | | |
| RC | 21 | 2 | 1 | 1 | | | | 13 |
| Cumulative Response Complete | 55% | 61% | 63% | 66% | | | | 100% |